

# Using Cumulative Risk Assessment in a Community Setting

ORD Science Topic Workshop on  
Cumulative Risk Assessment

Dallas

November, 2002

# CRA and Community Concerns

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- CRA overlaps with community questions and concerns in some, but not all areas
- Both the value and limitations of CRA must be clearly understood and explained for effective use

# Community Concerns

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- What is causing our poor health?
- Is there something in the environment that is affecting, or may affect, our community's health?
- What can we do to improve our environment and our community health?
- What are the risks and sources that we should be most concerned about?
- Is a particular source affecting our health?
- Is it safe to site any new sources in our community?
- Do we have an unfair share of environmental risk?







# Community Environmental Partnership

*Working together to Improve Our Communities*



**Grand Opening  
Celebration**

March 1  
12 - 4 PM  
Ribbon Cutting  
Ceremony

3606

GRAND OPENING  
New Community Center  
12 - 4 PM  
Ribbon Cutting  
Ceremony











# Types of Risk Assessment

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- Total risk assessment: all risks affecting community integrated
- Cumulative risk assessment: environmental stressors, a subset of total risk
  - CRA for all environmental stressors (ambient air including toxics, biologicals, dust; dietary and drinking water exposures, lead and asbestos, soil, noise, smell, etc.)
  - CRA for subset of environmental stressors, e.g., all air sources, or diet and drinking water, or pesticide exposures, or industrial and commercial sources, etc.

# Explaining CRA Limitations

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- Environmental stressors only one of many factors affecting community health
- Community needs comprehensive analysis of all factors for most effective planning
  - Access to health care; diet and lifestyle such as smoking, nutrition, and stress; occupational exposures; accidents, etc.

# Explaining Limitations (continued)

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- CRA cannot provide information on cause of current illnesses in community
- CRA a tool primarily used to reduce risks and exposures with goal of improving community health in the future
- Because community health is affected by multiple factors, using CRA alone with a community interested in improving community health is a recipe for disappointment



# Explaining CRA's Value

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- Can provide crucial information to community interested in finding more effective ways to improve community health
- Can help to build the community consensus needed to mobilize to improve community health
- Can provide information for comparing risks among different communities

# Approaches to Community CRA

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- CRA done independently: requires effort to integrate into overall community concerns
- CRA done as part of broader community health assessment effort: Ideal approach for national Healthy People 2010 Initiative
- CRA used to compare risks among communities:
  - Requires standardization of methods
  - Produces important information for targeting, siting, and fairness issues. MATESII, RSEI as examples.

# Community Goal: Risk Reduction

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- Information provided by CRA only a means to reach community's real end: risk reduction
- Valuable and effective tool for targeting limited resources, but only tool, not end
- Design CRA to support risk reduction goal:
  - Begin with immediate action on low hanging fruits
  - Include risk reduction phase in planning
  - Partners needed for risk reduction participate in CRA



CRA Emphasizes:

## **Work in Voluntary Settings**

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- Given limits of current statutes, CRA will often have to rely on voluntary initiatives for both analysis and risk reduction
- Understand conditions for successful voluntary effort: local community united and mobilized to reduce risks
- Design CRA process with the goal of a mobilized community in mind:
  - Involve all stakeholders in a deliberative process that builds consensus
  - Use CRA process to build consensus and capacity in community: CRA as an educational tool or process

CRA Emphasizes:

## **Work with Partnerships**

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- Emphasis on partnerships necessary:
  - To have sufficient resources to do CRA
  - To have sufficient resources for risk reduction
  - To address non-environmental factors affecting community health
- Partnerships needed within EPA, among federal agencies, with public health community

CRA Emphasizes:

## **Understanding Community Context**

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- Environmental issues not isolated in communities
- CRA work needs to be aware of overall community concerns and priorities: jobs, development, crime
- Do work in a way that supports and reinforces other community priorities



# Obstacles to Expect

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- Some will find new CRA information difficult to accept
- Partnership approach runs counter to normal way of doing business
- Turf battles among federal, state, and local governments
- Communities expect government to provide answers and solve problems, not act as partner
- General uneasiness with uncertainty and changes in science

# Overcoming Obstacles

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- Only long-term good faith efforts working with communities will demonstrate the value of CRA and partnership with EPA
- Good news: Willing community partner organizations exist and already working in Community Based Research partnerships
  - WHEACT in Harlem, Community Action Against Asthma in Detroit, West Jefferson County Taskforce in Louisville, Community Air Project in St.Louis, etc.

# What's Needed to Move Forward?

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We need more experience and research:

- Practical guidance and tools for using CRA in community setting
- Pilots designed to gain experience and to develop guidance and tools
- Research to support community CRA:
  - **Natural Sciences:** inventory, modeling and monitoring studies
  - **Social Sciences:** Partnership, risk communication, mobilization

# OPPT Work in Progress

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- Completion and peer review of Community Air Screening How To Manual
- Development of web based modeling accessible to communities: IGEMS
- Partnership for development of high school curriculum materials based on IGEMS and How To Manual

# What's Needed (continued):

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- Stronger coordination in Agency to improve communication and pool limited resources
- National coordination and leadership role:
  - Promote good communication to foster learning across states: Newsletters, conferences, etc.
  - Establish a division of labor to share research and tool development
  - Summarize experiences, identify best practices, and set standards



# Conclusion:

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- Just beginning to learn how to use CRA to help communities address their concerns
- CRA presents a great opportunity for EPA to learn how to work with and empower communities to effectively improve their health and environments

# Contact and Reference Information

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## OPPT Contacts:

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## Baltimore Case Study:

<http://www.epa.gov/opptintr/cahp/case.html>

## Internet Geographical Exposure Modeling System

<http://www.epa.gov/oppt/exposure/docs/gems.htm>

## Local Air Toxics Assessment Workshop:

<http://www.epa.gov/ttn/atw/wks/mainwks.html>

## California Neighborhood Assessment Program

<http://www.arb.ca.gov/ch/programs/nap/nap.htm>